

Application No. : 10/635,593
Filed : August 5, 2003

REMARKS

Claims 1-8 were pending in the application. By this paper, Applicant has cancelled Claim 1, 4 and 7 without prejudice, amended Claims 2, 3, 5, and 8, and added new Claims 9-34. Accordingly, Claims 2, 3, 5, 6, and 8-34 are presented for examination herein.

Power of Attorney

Applicant includes herewith a duly executed Power of Attorney compliant with 37 CFR §1.32 authorizing the undersigned to prosecute the present application.

§112 Rejections

Claim 4 - Per Par. 2 of the Office Action, the Examiner rejected Claim 4 under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. The Examiner has stated that the specification fails to teach a plurality of border devices issuing event gap tokens simultaneously.

Applicant herein preserves its rights to traverse the Examiner's rejection of Claims 4. Notwithstanding, by this paper, Applicant has cancelled claim 4 without prejudice, rendering this objection moot.

Claim 1 - Per Par. 4 of the Office Action, the Examiner rejected Claim 1 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. By this paper, Applicant has herein amended Claim 1 to overcome this rejection.

Claim 5 - The Examiner also rejected Claim 5 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. By this paper, Applicant has amended Claim 5 to further clarify and improve the form of Claim 5. Specifically, Applicant has described how the BOSS node is related to the issuance of gap tokens.

The lack of appropriate antecedent basis has also been corrected with the removal of the objected-to language.

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Accordingly, Applicant submits that Claim 5 as amended overcomes the Examiner's rejections.

5 Claim 8 - Claim 8 was also rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Applicant has accordingly herein amended Claim 8 to improve its clarity and form. Specifically, by this amendment, Applicant has clarified that every node in said hybrid communication system comprises a port. The "plurality of ports" and "all ports" language was removed in favor of the clearer amended language above. Additionally, the amended claim 8 now contains a clause indicating that the "requesting port" is a port from a node other than said beta node.

Further, lines 14-18 have been amended to be more grammatically correct.

15 Accordingly, Applicant submits that Claim 8 as amended herein overcomes the Examiner's rejections.

§101 Rejections

Per Pars. 5-6 of the Office Action, the Examiner rejected Claims 2 and 3 under 35 U.S.C. §101 as being directed to non-statutory matter. The Examiner has stated that Claims 2 and 3 are essentially claiming a data structure or signal, which is non-statutory subject matter. Applicant respectfully disagrees.

Signal claims have long been upheld by the U.S. Supreme Court to be patentable subject matter. For example, consider claim 5 from O'Reilly v. Morse 56 U.S. 62 (1853) concerning Morse Code, one of the first signal claims ever to be allowed:

25 *"I claim as my invention the system of signs consisting of dots and spaces and of dots, spaces and horizontal lines for numerals, letters, words or sentences substantially as herein set forth and illustrated for telegraph purposes."*

30 See also the USPTO training materials (March 26, 1996) that lists in Example 13 under "Automotive Manufacturing Plant" the following statutory claim: "A computer data signal embodied in a carrier wave comprising a compression source code segment comprising [the code]; and an encryption source code segment comprising [the code]." {emphasis added}

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Also consider Appeal No. 2,002-1554 in the case of Ex parte Rice (Application 08/003,996) where the Board of Patent Appeals and Interferences reversed an examiner's rejection of signal claims as being directed to non-statutory subject matter under 35 U.S.C. § 101, holding that electromagnetic signals, although "transitory and ephemeral in nature," are statutory subject matter. See also generally MPEP Section 2106.

In addition to signals, data structures may also be considered statutory subject matter. The case In re Lowry 32 U.S.P.Q.2d 1031 (Fed. Cir. 1994) is particularly germane. This invention in Lowry involved claims directed to a data structure stored in a computer memory. The data structure included a plurality of attribute data objects, comprising information related characteristics of an object as well as information relating to its relationship to another object, establishing a hierarchy of the data objects. The Federal Circuit ultimately held that a data structure could be patented as an article of manufacture and that because the data structure was structurally and functionally connected to the storage medium, it was not printed matter.

See also In re Beauregard, 53 F.3d 1583 (Fed. Cir. 1995). ("...the Commissioner now states that computer programs embodied in a tangible medium such as floppy diskettes are patent subject matter under 35 U.S.C. § 101.") {emphasis added}

Notwithstanding, and in the spirit of furthering prosecution, Applicant has herein amended Claims 2 and 3 to further clarify the recited structural relationships. Support for these amendments is replete throughout Applicant's specification. As such, Applicant asserts that amended Claims 2 and 3 now are in full compliance with the requirements of 35 U.S.C. §101, and overcome the Examiner's rejections.

Double Patenting Rejections

Per Pars. 7 and 8 of the Office Action, Claim 1 was provisionally rejected on the grounds of non-statutory obviousness-type double patenting. By this paper, Applicant has cancelled Claim 1 without prejudice and disclaimer, thereby rendering this rejection moot.

§102 Rejections

Claims 2 and 3 - The Examiner has rejected Claim 2 and Claim 3 under 35 U.S.C. §102(e) as being anticipated by Stone et al., U.S. Patent No. 6,519,657 (hereinafter "Stone").

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The Examiner asserts that Stone teaches indicating that a device from a legacy cloud wishes to arbitrate within a beta cloud (col. 6, lines 12-13, and col. 9, lines 2-67).

By this paper, Applicant has amended Claim 2 to recite a data structure for arbitrating on a high performance serial bus ...comprising a symbol generated by a border node comprising an indication therein for indicating that a PHY or link layer from a Legacy cloud wishes to arbitrate within a beta cloud. Support for this amendment is replete throughout Applicant's specification as filed.

Applicant has also similarly amended Claim 3.

Applicant submits that amended Claims 2 and 3 are novel and non-obvious over Stone, in that Stone does not appear to in any way teach or suggest a symbol generated by a border node as used for these purposes.

Specifically, Stone discloses a system where nodes in the beta cloud "modify their behavior" for the purposes of arbitration upon receiving a Self-ID packet from a border node with information indicating that there is a border node with active 1394a connections in the network. (Stone, Col. 9, lines 53-61). According to Stone, "*Upon receiving one or more border node self-ID packets, all 1394b nodes in the B network change their rules of operation to comply with hybrid fabric rules, which this application defines.*" (Col. 5, lines 7-10).

Moreover, per Stone, when a 1394a node wishes to arbitrate, "*it issues its request signal as per the 1394a standard.*" (Col. 9, lines 7-8). "*The border node then broadcasts that request into the 1394b network*" (Col. 9, lines 11-12). At no point during this transmission does Stone appear to teach or suggest the border node generating a symbol or communication indicating that a device, PHY, link or link layer from the Legacy cloud wishes to arbitrate within a beta cloud. The border node in Stone appears to merely passes the generic 1394a request through to the beta cloud. According to Stone, such nodes have already been made aware that there are 1394a connections present in the network during the Self-ID process (see Col. 8, lines 1-3). As such, these nodes have already been configured to process 1394a requests.

When a 1394b node wishes to arbitrate, Stone provides "*sending a 1394b request towards the local root, as defined in 1394b. However, the local root, upon receiving this request repeats it back to the entire 1394b network as a 1394a request*" (Col. 9, lines 36-39). This statement provides further evidence that Stone concerns modifying 1394b nodes to handle 1394a requests upon detecting at least one border node with an active 1394a connection. Put

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differently, Stone's border node is merely passing a 1394a request through the beta cloud, failing to generate any symbols or communications via the border node itself (*a fortiori*, any symbols or communications indicating a legacy device that wishes to arbitrate within a beta cloud).

Applicant further asserts that Col. 6, lines 12-13 of Stone are inapposite with respect to the aforementioned claims. Lines 12-13 concern the initial Tree-ID process and parent/child resolution in a hybrid bus, and do not relate to arbitration. Col. 9, lines 2-67 therefore appear to explicitly support Applicant's position as discussed above.

As such, Applicant believes that amended Claims 2 and 3 are both novel and non-obvious over Stone, and thus, such claims are in condition for allowance.

Claims 5 and 6 - The Examiner has also rejected Claims 5 and 6 under 35 U.S.C. §102(e) as being anticipated by Stone. The Examiner asserts that since Applicant has defined a "gap token" as the boss equivalent of legacy gap event, as such, the legacy gap event as described in Col. 9, lines 52-67 from Stone reads on this limitation. Applicant respectfully disagrees.

As Applicant has stated in its specification, "*there is a need for a protocol for freeing B only devices of the gap timer requirements and transferring this responsibility to border nodes, thus freeing B only devices from the requirement of having gap timer logic built in*" (page 9, lines 2-4; emphasis added).

By contrast, Col. 9, lines 52-67 of Stone, as cited by the Examiner, states: "*all 1394b devices must have a gap counter and must correctly respond to PHY configuration packets which set that timer.*" {emphasis added} Thus, Stone requires all devices have gap timer logic built in.

Applicant has stated on page 23, lines 17-18, that: "Gap tokens are the BOSS equivalent to a Legacy gap event." These tokens are created to emulate a legacy gap event. In this manner, as per one embodiment of Applicant's present invention, the border node can conduct the timing of the gaps and issue gap tokens over the beta network, thus obviating the need for all 1394b devices to have their own gap counter. **Stone does not disclose gap tokens, as such are unnecessary since all of Stone's 1394b devices have gap timer logic built in.**

As such, Applicant believes that Claim 6 and amended Claim 5 are both novel and non-obvious over Stone because Stone does not teach or suggest gap tokens as set forth by Applicant. Thus, Applicant submits that these claims are in condition for allowance.

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Claim 7 - The Examiner has also rejected Claim 7 under 35 U.S.C. §102(e) as being anticipated by Stone et al., U.S. 6,519,657. By this paper, Applicant has cancelled Claim 7 without prejudice, rendering this objection moot.

Other Remarks

Applicant hereby specifically reserves all rights of appeal (including those under the Pre-Appeal Pilot Program), as well as the right to prosecute claims of different scope in another continuation or divisional application.

Applicant notes that any claim cancellations or additions made herein are made solely for the purposes of more clearly and particularly describing and claiming the invention, and not for purposes of overcoming art or for patentability. The Examiner should infer no (i) adoption of a position with respect to patentability, (ii) change in the Applicant's position with respect to any claim or subject matter of the invention, or (iii) acquiescence in any way to any position taken by the Examiner, based on such cancellations or additions.


Furthermore, any remarks made with respect to a given claim or claims are limited solely to such claim or claims.

If the Examiner has any questions or comments which may be resolved over the telephone, he is requested to call the undersigned at (858) 675-1670.

Respectfully submitted,

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